

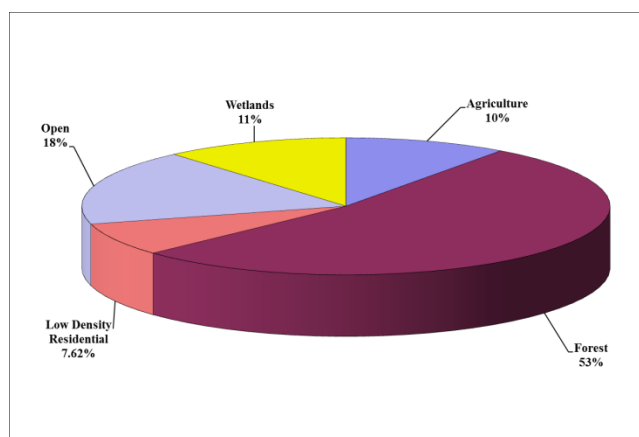
## Waterbody: Panther Creek



## Basin: Lake Miccosukee

Panther Creek is a tannic, nitrogen-limited stream that flows southeast and eventually drains into Lake Miccosukee.

As shown in the following pie chart, approximately 18% of land use in the 2,580 acre watershed is agricultural or residential. Increases in stormwater runoff, and waterbody nutrient loads can often be attributed to these types of land uses.



### Background

Healthy, well-balanced stream communities may be maintained with some level of human activity, but excessive human disturbance may result in waterbody degradation. Human stressors may include increased inputs of nutrients, sediments,

and/or other contaminants from watershed runoff, adverse hydrologic alterations, undesirable removal of habitat or riparian buffer vegetation, and introduction of exotic plants and animals. Water quality standards are designed to protect designated uses of the waters of the state (e.g., recreation, aquatic life, fish consumption), and exceedances of these standards are associated with interference of the designated use.

### Methods

Surface water sampling was conducted to determine the health of Panther Creek and met the collection and analysis requirements of the Florida Department of Environmental Protection (FDEP).

### Results

#### *Nutrients*

According to FDEP requirements, Numeric Nutrient Criteria (NNC) (expressed as an annual geometric mean) cannot be exceeded more than once in a three year period. Due to low water conditions, four temporally independent samples per year have only been collected in years 2009 and 2013. The 2013 results showed that Panther Creek's geometric mean for total nitrogen (0.40 mg/L) met FDEP's criteria ( $\leq 1.03$  mg/L). The total phosphorus threshold ( $\leq 0.18$  mg/L) for Panther Creek (0.13 mg/L) also met FDEP's NNC criteria.

#### *Metals*

Panther Creek lead levels exceeded Class III water quality criteria during the 1<sup>st</sup> quarter. A recent controlled burn adjacent to Panther Creek and 0.5 inches of rain prior to sampling probably contributed to lead flushing out of the nearby soils into the creeks. Relict anthropogenic sources such as leaded gasoline are most likely the source of lead.

[Click here for more information on metal levels in Leon County waterbodies.](#)

### *Other Parameters*

Other water quality parameters appear to be normal for the area and no impairments were noted.

### **Conclusions**

Based on ongoing sampling, Panther Creek met the nutrient thresholds for the East Panhandle region. Panther Creek lead levels exceeded Class III water quality criteria during the 1<sup>st</sup> quarter. Other water quality parameters appear to be normal for the area and no impairments were noted.

Thank you for your interest in maintaining the quality of Leon County's water resources. Please feel free to contact us if you have any questions.

### **Contact and resources for more information**

[www.LeonCountyFL.gov/WaterResources](http://www.LeonCountyFL.gov/WaterResources)

[Click here to access the results for all water quality stations sampled in 2013.](#)

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